

Report Date: 25 Jun 2014

Summary Report for Individual Task
551-88K-2714
Compute Tide and Current Using References
Status: Approved

Distribution Restriction: Approved for public release; distribution is unlimited.

Destruction Notice: None

Foreign Disclosure: FD5 - This product/publication has been reviewed by the product developers in coordination with the Fort Lee foreign disclosure authority. This product is releasable to students from all requesting foreign countries without restrictions.

Condition: Assigned as a crewmember aboard an Army vessel, given an Operation Order/Operations Plan (OPORD/OPLAN), a complete risk assessment, nautical charts, time and location, current tide and current tables, NOS Nautical Chart Catalog No. 1, Pub No. 9, TC 4-15.51, paper, pencil, eraser, and tide/current worksheet, day or night, in all weather conditions, in an operational environment scenario. Some iterations of this task should be performed in MOPP 4.

Standard: Compute the tide, current velocity and direction within +/-0.5 knots/+/- 0.5 feet within the variance for a specific location and time.

Special Condition: None

Safety Risk: Low

MOPP 4: Sometimes

Task Statements

Cue: Given an OPORD/OPLAN to compute tide and current using references.

DANGER

None

WARNING

None

CAUTION

None

Remarks: None

Notes: None

Performance Steps

1. Compute tidal prediction.

- a. Determine the index number for the desired place.

Note: Obtain up-to-date tide and current table.

b. Locate the index number in Table 2, obtain the corrections for times of high and low tides and the heights for high and low tides, and the reference station page number.

c. Locate in Table 1 the high and low tides between which the desired time falls and apply the corrections from Table 2.

- d. Enter Table 3 and compute the following corrections:

(1) Compute the duration of the rise and fall (time).

(2) Extract the height of the nearest high or low.

(3) Compute the time to the nearest high or low.

- e. Interpolate for correction from Table 3 +/- (if ratio multiply).

- f. Compute the range of the tide.

- g. Compute the height of the tide and give the sign if it is rising or falling.

- h. Add or subtract the charted depth of water from the height factor.

2. Compute tidal current prediction.

- a. Determine the date, time, and location to be used.

- b. Determine the index number for the desired place.

c. Locate and obtain information from Tidal Current Table 2 for the times of slack water before the ebb and flood and maximum currents, the velocity ratios for the flood and ebb, and the direction of the current for the flood and ebb as well as noting the page number of the reference station.

- d. Locate the reference station in Table 1 and apply the corrections from Table 2.

- e. Compute the interval between slack and maximum flood or ebb between which the desired time falls.

- f. Compute the interval between slack and desired time.

g. Enter Table 3 with factors computed, find the correction factor, multiply to find the velocity of the current, and label the flood or ebb with the direction.

(Asterisks indicates a leader performance step.)

Evaluation Guidance: Score the Soldier GO if all performance steps are passed (P). Score the Soldier NO-GO if any performance step is failed (F). If the Soldier fails any step, show what was done wrong and how to do it correctly.

Evaluation Preparation: Ensure that all information, references and equipment required to perform the task are available. Use the TC and the Evaluation Guide to score the Soldier's performance. Brief the Soldier. Tell the Soldier what

is required IAW the task condition and standard.

PERFORMANCE MEASURES	GO	NO-GO	N/A
1. Computed tidal prediction.			
2. Computed tidal current prediction.			

Supporting Reference(s):

Step Number	Reference ID	Reference Name	Required	Primary
	88K20D01	Nautical Charts	Yes	No
	NOS PBTCTATCSTN4	Tidal Current Tables - Atlantic Coast.	Yes	No
	NOS PBTTECSTNSA4	Tide Tables - Atlantic Coast.	Yes	No
	NOS PBCATALOG 1	NOS Nautical Chart Catalog No.1	Yes	No
	PUB. NO. 9	The American Practical Navigator - Bowditch	Yes	No
	TC 4-15.51	MARINE CREWMAN'S HANDBOOK	Yes	No
	TIDAL CURRENT TABLES	Tidal Current Tables	Yes	No

Environment: Environmental protection is not just the law but the right thing to do. It is a continual process and starts with deliberate planning. Always be alert to ways to protect our environment during training and missions. In doing so, you will contribute to the sustainment of our training resources while protecting people and the environment from harmful effects. Refer to FM 3-34.5 Environmental Considerations and GTA 05-08-002 ENVIRONMENTAL-RELATED RISK ASSESSMENT.

AR 200-1 delineates TRADOC responsibilities to integrate environmental requirements across DOTMLPF and ensures all training procedures, training manuals, and training doctrine includes sound environmental practices and considerations. The Army's environmental vision is to be a national leader in environmental and natural resource stewardship for present and future generations as an integral part of all Army missions. Environmental protection is never completed. Continuously be alert to ways to protect our environment and reduce waste.

Leaders must ensure that their unit has an active and strong environmental program. They must understand the laws and know what actions to take. Leaders bring focus, direction, and commitment to environmental protection. Commanding officers should ensure the following environmental programs are in place and are being maintained:

- Hazardous materials program.
- Hazardous waste program.
- Hazardous communications program.
- Pollution prevention and hazardous waste minimization recycling program.
- Spill prevention and response plan program

Safety: In a training environment, leaders must perform a risk assessment in accordance with ATP 5-19, Risk Management. Leaders will complete the current Deliberate Risk Assessment Worksheet in accordance with the TRADOC Safety Officer during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category in order to avoid heat related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW FM 3-11.4, Multiservice Tactics, Techniques, and Procedures for Nuclear, Biological, and Chemical (NBC) Protection, FM 3-11.5, Multiservice Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Decontamination.

All operations will be performed to protect and preserve Army personnel and property against accidental loss. Procedures will provide for public safety incidental to Army operations and activities and safe and healthful workplaces, procedures, and equipment. Observe all safety and/or environment precautions regarding electricity, cable, and lines. Provide ventilation for exhaust fumes during equipment operation and use hearing protection when required IAW AR 385-10, the Clean Air Act (CAA) and the CAA amendments, and the OSHA Hazard Communication standard.

Accidents are an unacceptable impediment to Army missions, readiness, morale, and resources. Decision makers at every level will employ risk management approaches to effectively preclude unacceptable risk to the safety of personnel and property affiliated with this task.

- (a) Take personal responsibility.

- (b) Practice safe operations.
- (c) Recognize unsafe acts and conditions.
- (d) Take action to prevent accidents.
- (e) Report unsafe acts and conditions.
- (f) Work as a team.

Prerequisite Individual Tasks :

Task Number	Title	Proponent	Status
551-88K-1708	Maintain a Vessel's Nautical Charts and Publications	551 - Transportation (Individual)	Approved

Supporting Individual Tasks :

Task Number	Title	Proponent	Status
551-88K-1504	Perform Vessel Pre-Sail Requirements	551 - Transportation (Individual)	Approved
551-88K-2711	Perform Dead Reckoning(DR) Techniques Onboard a Vessel	551 - Transportation (Individual)	Obsolete
551-88K-3501	Monitor Fixed Port Operations Onboard a Vessel	551 - Transportation (Individual)	Approved

Supported Individual Tasks :

Task Number	Title	Proponent	Status
551-88K-2712	Perform Vessel Movements Using Aids to Navigation (ATONS)	551 - Transportation (Individual)	Obsolete
551-88K-2711	Perform Dead Reckoning(DR) Techniques Onboard a Vessel	551 - Transportation (Individual)	Obsolete
551-88K-2715	Implement vessel Navigational Rules for Inland/International waters	551 - Transportation (Individual)	Obsolete

Supported Collective Tasks :

Task Number	Title	Proponent	Status
55-2-1508	Conduct Vessel Operations	55 - Transportation (Collective)	Approved

ICTL Data :

ICTL Title	Personnel Type	MOS Data
MOS 88K Watercraft Operator SL 4	Enlisted	MOS: 88K, Skill Level: SL4, Duty Pos: TFJ
MOS 88K Watercraft Operator-SL2	Enlisted	MOS: 88K, Skill Level: SL2, Duty Pos: TCF